## ATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| | | |
|---|---|---|
| Applicant's or agent's file reference<br>BN 25 PCT | **FOR FURTHER ACTION** see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. | |
| International application No.<br>PCT/EP 98/02341 | International filing date *(day/month/year)*<br>21/04/1998 | (Earliest) Priority Date *(day/month/year)*<br>22/04/1997 |
| Applicant<br>BAVARIAN NORDIC RESEARCH INSTITUTE A/S et al. | | |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

   ☐ contained in the international application in written form.
   ☐ filed together with the international application in computer readable form.
   ☒ furnished subsequently to this Authority in written form.
   ☐ furnished subsequently to this Authority in computer readble form.
   ☒ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
   ☒ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).
3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. –

   ☐ as suggested by the applicant.
   ☐ because the applicant failed to suggest a figure.
   ☐ because this figure better characterizes the invention.

   ☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 98/02341

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

see FURTHER INFORMATION sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-10 (all partially)

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10 (all partially)

   A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 1 and Seq.ID 2 or using oligonucleotide primers with Seq.ID 1 and Seq.ID 2 in combination with the oligonucleotide with Seq. ID 18 wherein the oligonucleotide primers/probes are specific for a gene encoding heat labile toxin for the amplification of a DNA sequence characteristic for enterotoxigenic E.coli and Seq.ID 18 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

2. Claims: 1-10 (all partially)

   A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 3 and Seq.ID 4 or using using oligonucleotide primers with Seq.ID 3 and Seq.ID 4 in combination with the oligonucleotide with Seq. ID 19 wherein the oligonucleotide primers/probes are specific for a gene encoding heat stabile toxin for the amplification of a DNA sequence characteristic for enterotoxigenic E.coli and Seq.ID 19 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

3. Claims: 1-10 (all partially)

   A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 5 and Seq.ID 6 or using oligonucleotide primers with Seq.ID 5 and Seq.ID 6 in combination with the oligonucleotide with Seq. ID 20 wherein the oligonucleotide primers/probes are specific for a gene encoding heat stabile toxin for the amplification of a DNA sequence characteristic for enteroaggregative E.coli and Seq.ID 20 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

4. Claims: 1-10 (all partially)

A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 7 and Seq.ID 8 or using oligonucleotide primers with Seq.ID 7 and Seq.ID 8 in combination with the oligonucleotide with Seq. ID 21 wherein the oligonucleotide primers/probes are specific for the pCDV432 plasmid for the amplification of a DNA sequence characteristic for enteroaggregative E.coli and Seq.ID 21 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

5. Claims: 1-10 (all partially)

A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 9 and Seq.ID 10 or using oligonucleotide primers with Seq.ID 9 and Seq.ID 10 in combination with the oligonucleotide with Seq. ID 22 wherein the oligonucleotide primers/probes are specific for the inv-plasmid for the amplification of a DNA sequence characteristic for enteroinvasive E.coli and Seq.ID 22 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

6. Claims: 1-10 (all partially)

A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 11 and Seq.ID 12 or using oligonucleotide primers with Seq.ID 11 and Seq.ID 12 in combination with the oligonucleotide with Seq.ID 23 wherein the oligonucleotide primers/probes are specific for the EAF plasmid for the amplification of a DNA sequence characteristic for enteropathogenic E.coli and Seq.ID 23 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

7. Claims: 1-10 (all partially)

A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 13 and Seq.ID 14 or using oligonucleotide primers with Seq.ID 13 and Seq.ID 14 in combination with the oligonucleotide with

Seq. ID 24 wherein the oligonucleotide primers/probes are specific for the eae gene for the amplification of a DNA sequence characteristic for enteropathogenic E.coli and Seq.ID 24 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

8. Claims: 1-10 (all partially)

A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 15 and Seq.ID 16/17 or using oligonucleotide primers with Seq.ID 15 and Seq.ID 16/17 in combination with oligonucleotide with Seq. ID 25 wherein the oligonucleotide primers/probes are specific for the gene encoding shiga-like toxin sltI for the amplification of a DNA sequence characteristic for enterohemorrhagic E.coli and Seq.ID 25 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

9. Claims: 1-10 (all partially)

A method, set of primers/probes and the use of the method for the detection of pathogenic E.coli in a sample comprising PCR amplification of DNA isolated from said sample using oligonucleotide primers with Seq.ID 27 and Seq.ID 28 or using oligonucleotide primers with Seq.ID 27 and Seq.ID 28 in combination with the oligonucleotide with Seq.ID 26 wherein the oligonucleotide primers/probes are specific for the gene encoding shiga-like toxin sltII for the amplification of a DNA sequence characteristic for enterohemorrhagic E.coli and Seq.ID 26 comprises a labelled oligonucleotide probe being susceptible to 5'-3' exonuclease degradation by the polymerase used, to produce detectable fragments.

# INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 98/02341

**A. CLASSIFICATION OF SUBJECT MATTER**
IPC 6 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | WO 96 08582 A (BERGERON MICHEL G ;OUELLETTE MARC (CA); ROY PAUL H (CA)) 21 March 1996<br>See pages 24-25<br>see the whole document<br>--- | 1-10 |
| Y | EP 0 556 504 A (SHIMADZU CORP) 25 August 1993<br>see the whole document<br>--- | 1-10 |
| Y | WO 96 12801 A (TEXAS A & M UNIVERSITY SYST ;UNIV TULANE (US); ARNTZEN CHARLES J () 2 May 1996<br>See oligonucleotides with Seq.ID 7 and 22. Seq.ID 7 shows 100% identity in 13 bp overlap with Seq.ID 2; Seq.ID 22 shows 100% identity in 15 bp overlap with Seq.ID 18<br>---<br>-/-- | 1-10 |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed
- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

| | |
|---|---|
| Date of the actual completion of the international search<br>22 February 1999 | Date of mailing of the international search report<br>24 05 1999 |
| Name and mailing address of the ISA<br>European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,<br>Fax: (+31-70) 340-3016 | Authorized officer<br>Hagenmaier, S |

1

Form PCT/ISA/210 (second sheet) (July 1992)

**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| A | EP 0 669 399 A (SHIMADZU CORP) 30 August 1995<br>see the whole document<br>--- | 1-10 |
| A | HEID C A ET AL: "REAL TIME QUANTITATIVE PCR"<br>GENOME RESEARCH,<br>vol. 6, no. 10, October 1996,<br>pages 986-994, XP000642795<br>see the whole document<br>--- | 1-10 |
| A | DATABASE MEDLINE<br>JOURNAL OF DAIRY SCIENCE, January 1997<br>BATT: "MOLECULAR DIAGNOSTICS FOR DAIRY-BORNE PATHOGENS"<br>XP002094257<br>see abstract<br>--- | 1-10 |
| A | IBRAHIMI AND GENTZ: "A FUNCTIONAL INTERACTION BETWEEN THE SIGNAL PEPTIDE AND THE TRANSLATION APPARATUS IS DETECTED BY THE USE OF A SINGLE POINT MUTATION WHICH BLOCKS TRANSLOCATION ACROSS MAMMALIAN ENDOPLASMIC RETICULUM"<br>JOURNAL OF BIOLOGICAL CHEMISTRY,<br>vol. 262, no. 21, 1987,<br>pages 10189-10194, XP002094256 | 1-10 |
| A | & DATABASE EMBL<br>AC: M17101, 1988<br>see abstract<br>--- | 1-10 |
| P,Y | DATABASE EMBL<br>AC: T97602; W09737685, October 1997<br>XP002094258<br>Enterotoxigenic E.coli heat-labile (LT) PCR primer 12 has 100% identity to<br>Seq.ID 2.<br>see abstract<br>----- | 1-10 |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 98/02341

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---|---|---|
| WO 9608582 A | 21-03-1996 | AU 3468195 A | 29-03-1996 |
| | | BR 9508918 A | 21-10-1997 |
| | | CA 2199144 A | 21-03-1996 |
| | | EP 0804616 A | 05-11-1997 |
| | | JP 10504973 T | 19-05-1998 |
| | | NO 971111 A | 09-05-1997 |
| | | NZ 292494 A | 25-03-1998 |
| EP 0556504 A | 25-08-1993 | JP 2067556 C | 10-07-1996 |
| | | JP 5227999 A | 07-09-1993 |
| | | JP 7102158 B | 08-11-1995 |
| | | US 5516898 A | 14-05-1996 |
| | | US 5525718 A | 11-06-1996 |
| | | US 5468852 A | 21-11-1995 |
| | | JP 2067558 C | 10-07-1996 |
| | | JP 5317098 A | 03-12-1993 |
| | | JP 7102159 B | 08-11-1995 |
| WO 9612801 A | 02-05-1996 | AU 691707 B | 21-05-1998 |
| | | AU 4194096 A | 15-05-1996 |
| | | CA 2203679 A | 02-05-1996 |
| | | EP 0793717 A | 10-09-1997 |
| | | JP 10507916 T | 04-08-1998 |
| EP 0669399 A | 30-08-1995 | JP 7236500 A | 12-09-1995 |
| | | JP 7284400 A | 31-10-1995 |
| | | US 5795717 A | 18-08-1998 |

# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

| For receiving Office use only |
|---|
| International Application No. |
| International Filing Date |
| Name of receiving Office and "PCT International Application" |

Applicant's or agent's file reference *(if desired) (12 characters maximum)* BN 25 PCT

**Box No. I** TITLE OF INVENTION

TaqMan-PCR for the detection of pathogenic E. coli strains

**Box No. II** APPLICANT

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (i.e. country) of residence if no State of residence is indicated below.)*

Bavarian Nordic Research Institute A/S
Naverland 2
DK-2600 Glostrup

Denmark

☐ This person is also inventor.

Telephone No. 00-45-4343-8444

Facsimile No. 00-45-4343-8999

Teleprinter No.

State *(i.e. country)* of nationality: DK

State *(i.e. country)* of residence: DK

This person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

**Box No. III** FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (i.e. country) of residence if no State of residence is indicated below.)*

Pfeffer, Klaus
Prinzregentenstr. 130
D-81677 München

Germany

This person is:
☐ applicant only
☒ applicant and inventor
☐ inventor only *(If this check-box is marked, do not fill in below.)*

State *(i.e. country)* of nationality:

State *(i.e. country)* of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

**Box No. IV** AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: ☒ agent ☐ common representative

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

Dr. Petra Pielken
Bavarian Nordic Research Institute GmbH
Frankfurter Ring 193 a
D-80807 München

Telephone No. 00-49-(0)89-324752-19

Facsimile No. 00-49-(0)89-324752-44

Teleprinter No.

☐ Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

*See Notes to the request form*

Sheet No. 2

## Box No.V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a) *(mark the applicable check-boxes; at least one must be marked)*:

**Regional Patent**

- ☒ **AP** **ARIPO Patent:** GH Ghana, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA** **Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP** **European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA** **OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT *(if other kind of protection or treatment desired, specify on dotted line)* ..........

**National Patent** *(if other kind of protection or treatment desired, specify on dotted line)*:

- ☒ AL Albania
- ☒ AM Armenia
- ☒ AT Austria
- ☒ AU Australia
- ☒ AZ Azerbaijan
- ☒ BA Bosnia and Herzegovina
- ☒ BB Barbados
- ☒ BG Bulgaria
- ☒ BR Brazil
- ☒ BY Belarus
- ☒ CA Canada
- ☒ CH and LI Switzerland and Liechtenstein
- ☒ CN China
- ☒ CU Cuba
- ☒ CZ Czech Republic
- ☒ DE Germany
- ☒ DK Denmark
- ☒ EE Estonia
- ☒ ES Spain
- ☒ FI Finland
- ☒ GB United Kingdom
- ☒ GE Georgia
- ☒ GH Ghana
- ☒ HU Hungary
- ☒ IL Israel
- ☒ IS Iceland
- ☒ JP Japan
- ☒ KE Kenya
- ☒ KG Kyrgyzstan
- ☒ KP Democratic People's Republic of Korea
- ☒ KR Republic of Korea
- ☒ KZ Kazakstan
- ☒ LC Saint Lucia
- ☒ LK Sri Lanka
- ☒ LR Liberia
- ☒ LS Lesotho
- ☒ LT Lithuania
- ☒ LU Luxembourg
- ☒ LV Latvia
- ☒ MD Republic of Moldova
- ☒ MG Madagascar
- ☒ MK The former Yugoslav Republic of Macedonia
- ☒ MN Mongolia
- ☒ MW Malawi
- ☒ MX Mexico
- ☒ NO Norway
- ☒ NZ New Zealand
- ☒ PL Poland
- ☒ PT Portugal
- ☒ RO Romania
- ☒ RU Russian Federation
- ☒ SD Sudan
- ☒ SE Sweden
- ☒ SG Singapore
- ☒ SI Slovenia
- ☒ SK Slovakia
- ☒ SL Sierra Leone
- ☒ TJ Tajikistan
- ☒ TM Turkmenistan
- ☒ TR Turkey
- ☒ TT Trinidad and Tobago
- ☒ UA Ukraine
- ☒ UG Uganda
- ☒ US United States of America
- ☒ UZ Uzbekistan
- ☒ VN Viet Nam
- ☒ YU Yugoslavia
- ☒ ZW Zimbabwe

Check-boxes reserved for designating States (for the purposes of a national patent) which have become party to the PCT after issuance of this sheet:

- ☒ CY Cyprus
- ☒ GM Gambia
- ☒ GW Guinea-Bissau
- ☒ ID Indonesia
- ☐ ..........

**In addition to the designations made above,** the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except the designation(s) of ____________________.
The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. *(Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)*

**Box No. VI PRIORITY CLAIM** Further priority claims are indicated in the Supplemental Box ☐

The priority of the following earlier application(s) is hereby claimed:

| Country *(in which, or for which, the application was filed)* | Filing Date *(day/month/year)* | Application No. | Office of filing *(only for regional or international application)* |
|---|---|---|---|
| item (1)<br>Denmark (DK) | 22. April 1997<br>(22.04.1997) | 0451/97 | |
| item (2) | | | |
| item (3) | | | |

*Mark the following check-box if the certified copy of the earlier application is to be issued by the Office which for the purposes of the present international application is the receiving Office (a fee may be required):*

☐ The receiving Office is hereby requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s) : ____________

**Box No. VII INTERNATIONAL SEARCHING AUTHORITY**

**Choice of International Searching Authority (ISA)** *(If two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):* ISA / ____________

**Earlier search** *Fill in where a search (international, international-type or other) by the International Searching Authority has already been carried out or requested and the Authority is now requested to base the international search, to the extent possible, on the results of that earlier search. Identify such search or request either by reference to the relevant application (or the translation thereof) or by reference to the search request:*

Country (or regional Office): Date *(day/month/year)*: Number:

**Box No. VIII CHECK LIST**

This international application contains the following number of sheets:

| | | | |
|---|---|---|---|
| 1. request | : | 3 | sheets |
| 2. description | : | 48 | sheets |
| 3. claims | : | 10 | sheets |
| 4. abstract | : | 1 | sheets |
| 5. drawings | : | | sheets |
| **Total** | : | 62 | sheets |

This international application is accompanied by the item(s) marked below:

1. ☐ separate signed power of attorney
2. ☐ copy of general power of attorney
3. ☐ statement explaining lack of signature
4. ☒ priority document(s) *identified in Box No. VI as item(s):*
5. ☒ fee calculation sheet
6. ☐ separate indications concerning deposited microorganisms
7. ☒ nucleotide and/or amino acid sequence listing (diskette)
8. ☒ other *(specify)*: Remarks, 1 page

Figure No. ______ of the drawings (if any) should accompany the abstract when it is published.

**Box No. IX SIGNATURE OF APPLICANT OR AGENT**

*Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).*

München, den 20.04.1998

Petra Pielken.

Dr. Petra Pielken

**For receiving Office use only**

| | | |
|---|---|---|
| 1. Date of actual receipt of the purported international application: | | 2. Drawings:<br>☐ received:<br>☐ not received: |
| 3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application: | | |
| 4. Date of timely receipt of the required corrections under PCT Article 11(2): | | |
| 5. International Searching Authority specified by the applicant: ISA / | 6. ☐ Transmittal of search copy delayed until search fee is paid | |

**For International Bureau use only**

Date of receipt of the record copy by the International Bureau: